

Brown Surgery Referral **Client Handout:Corrective Osteotomy**

During the growth period of young animals, the growth plates can become damaged or nonfunctional and create what's called an angular deformity. One of the most common angular deformities with growing pets is what's called carpal valgus. With this scenario, the ulnar growth plate was damaged by sometime what seems as if a very minor injury or sprain. This closes the growth plate and thus the ulna stops growing. With the radius paired with the ulna, the radius continues to grow. The ulna acts as a bow string and causes the radius to curve as it grows. The paw is then unable to be placed on the ground in the correct anatomic position.

Puppies will often not show signs of pain early on in the process but with continued abnormal pressure on the sides of the joint, they will eventually experience lameness. As it progresses, arthritis begins to form in the joint which will in turn cause more pain and inflammation and increasing lameness.



Another common form of angular limb deformity involves the abnormal placement of the patella or kneecap. In the more severe cases of patellar luxations such as in grade 4/4, the patellar ligament acts as the bow string and causes the femur and tibia to grow into an 'S' shape. Depending on the severity, the femur, the tibia, or both may need surgery in order to get the leg operating anatomically normal.

Surgery of either case, first involves imaging such as x-rays and sometimes advanced imaging such as a CT scan in order to prepare for the surgery. After a little geometry, a wedge of bone is calculated to be removed in order to straighten the leg. Then a stainless steel plate is placed to hold the bone in correct alignment while it heals.



The aftercare is the most crucial part of this surgery. It will require strict kennel confinement or leash walks for at least 8 weeks. The bone itself will not be completely healed until the 12 week period, but should be stable enough by 8 weeks to remove restrictions. Since this is less traumatic than a fractured leg, the soft tissue swelling and inflammation subside at about the 2 week period and the dog will often feel good on the leg. This is misleading because the plate itself is NOT strong enough to handle normal activity of active dogs. If aftercare guidelines are not strictly adhered to, surgical failure can occur.